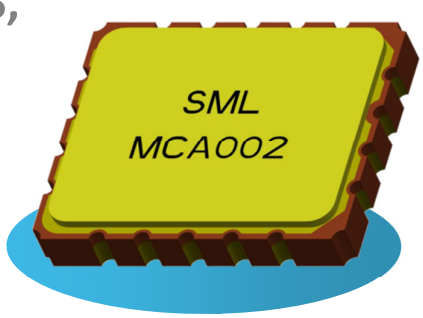
Power and Hybrid

MULTI CHIP ARRAY

4 COMMON SOURCE N-CHAN MOSFETS, 4 COMMON SOURCE P-CHAN MOSFETS

MCA002



- Ceramic surface mount package
- Designed for high reliability applications
- Screening Options Available

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

		N-Channel	P-Channel
V_{DS}	Drain – Source Voltage	+60V	-60V
V_{GS}	Gate – Source Voltage	±30V	±30V
I_D	Continuous Drain Current, Per Device	200mA	200mA
P_D	Power Dissipation, Per Device	0.5W	0.5W
T_J	Junction Temperature Range	-55 to +150°C	
T_{stg}	Storage Temperature Range	-55 to +150°C	

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	30	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	60	°C/W

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ELECTRICAL CHARACTERISTICS

N-Channel, Per Device (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
$V_{(BR)DSS}$	Drain – Source Breakdown Voltage	V_{GS} = 0V	I_D = 100µA	60	100		V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = 1.0mA	0.8	1.6	2.5	
I_{GSS}	Gate Body Leakage	V_{DS} = 0V	V_{GS} = ±20V		±1.0	±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 48V	V_{GS} = 0V		0.02	1.0	µA
			T_J = 125°C(3)		1.0	100	
$I_{D(ON)}$	On-State Drain Current(2)	V_{DS} = 10V	V_{GS} = 10V	750	1000		mA
$R_{DS(ON)}$	Drain – SourceOn – Resistance(1)	V_{GS} = 4.5V	I_D = 75mA		4	7.5	Ω
		V_{GS} = 10V	I_D = 0.2A		2.5	5	
			T_J = 125°C(3)		4.4		
g_{fs}	Forward Transconductance(1)(3)	V_{DS} = 10V	I_D = 0.5A		230		mS
g_{os}	Common Source Output Conductance(1)(3)	V_{DS} = 5V	I_D = 50mA		500		µS

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	V_{DS} = 25V f = 1Mhz	V_{GS} = 0V		35		pF
C_{oss}	Output Capacitance				13		
C_{rss}	Reverse Transfer Capacitance				4		
$t_{d(on)}$	Turn-On Delay Time	V_{DD} = 25V R_L = 50Ω I_D = 0.5A	V_{GEN} = 10V R_{GEN} = 25Ω		7		nS
$t_{d(off)}$	Turn-Off Delay Time				7		

Notes

(1) Pulse Width ≤ 380us, δ ≤ 2%
(2) Pulse Width Limited By Maximum Junction Temperature
(3) Not a Production Test, By Design Only

ELECTRICAL CHARACTERISTICS

P-Channel, Per Device (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
$V_{(BR)DSS}$	Drain – Source Breakdown Voltage	V_{GS} = 0V	I_D = -10µA	-60	-75		V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = -1.0mA	-1.0	-2.5	-3.5	
I_{GSS}	Gate Body Leakage	V_{DS} = 0V	V_{GS} = ±20V		±1.0	±100	nA
			T_J = 125°C(3)		±5	±500	
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = -48V	V_{GS} = 0V		-0.02	-1.0	µA
			T_J = 125°C(3)		-0.2	-100	
$I_{D(ON)}$	On-State Drain Current(2)	V_{DS} = -10V	V_{GS} = -4.5V	-50	-80		mA
$R_{DS(ON)}$	Drain – SourceOn – Resistance(1)	V_{GS} = -4.5V	I_D = -25mA		11	25	Ω
		V_{GS} = -4.5V	I_D = -0.1A		8	25	
		V_{GS} = -10V	I_D = -0.2A		6	10	
			T_J = 125°C(3)		12		
g_{fs}	Forward Transconductance(1)(3)	V_{DS} = -10V	I_D = -0.1A		90		mS
g_{os}	Common Source Output Conductance(1)(3)	V_{DS} = -10V	I_D = -0.1A		400		µS

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	V_{DS} = -25V f = 1Mhz	V_{GS} = 0V		45		pF
C_{oss}	Output Capacitance				22		
C_{rss}	Reverse Transfer Capacitance				3		
$t_{d(on)}$	Turn-On Delay Time	V_{DD} = -25V R_L = 50Ω I_D = -0.5A	V_{GEN} = -10V R_{GEN} = 25Ω		4		nS
t_r	Rise Time				5		
$t_{d(off)}$	Turn-Off Delay Time				5		
t_f	Fall Time				4		

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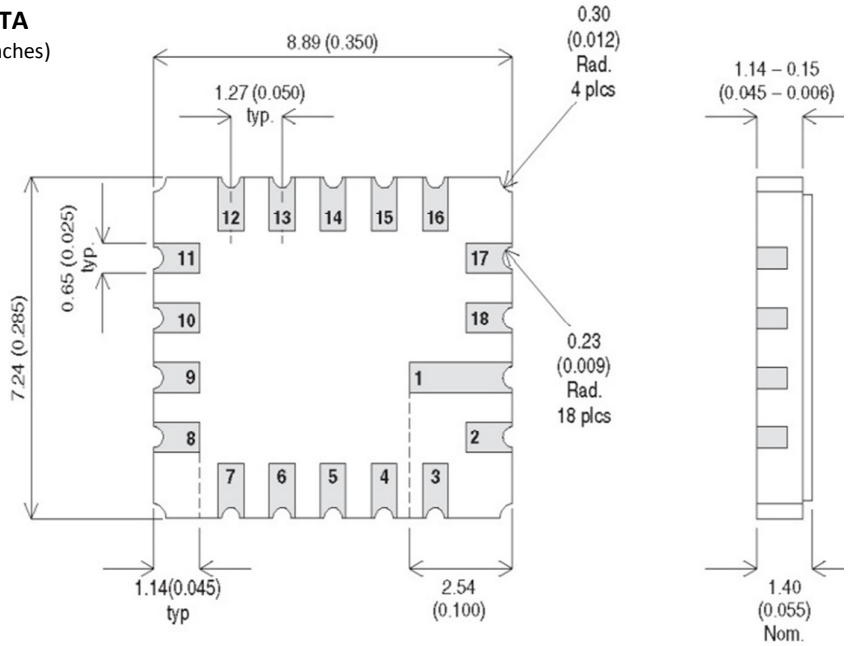
MECHANICAL DATA
Dimensions in mm (inches)



LCC6 Underside View

N-CHANNEL DEVICES : 1-4
P-CHANNEL DEVICES : 5-8

Pin Number	Connection
1	D3
2	G3
3	G4
4	D4
5	P-Channel Common Source (devices 5, 6, 7, 8)
6	D5
7	G5
8	G6
9	D6
10	D7
11	G7
12	G8
13	D8
14	N-Channel Common Source (devices 1, 2, 3, 4)
15	D1
16	G1
17	G2
18	D2